CLAIMS

1. A programmable interface comprising:

a register file having registers, each register having a type;

a run control register;

a microcontroller bidirectionally communicates with the register file and the run control register;

a Code Store SRAM, bidirectionally communicating with the microcontroller; and

executable code, loaded onto the Code Store RAM;

wherein the Code Store SRAM and the run control register bidirectionally communicates with a system processor.

2. A device, as defined in claim 1, the types of the registers are selected from a group that includes timer, General purpose, external I/O, internal I/O, shared, and interrupt.

3. A device, as defined in claim 2, when one of the registers has a type of external I/O, the register including edge detect logic.

4. A device, as defined in claim 2, wherein the register type further includes FIFO registers, operative to communicate with a direct memory access controller.

5. A device, as defined in claim 3, the executable code implements a laser printer mechanism communications interface and a vertical top-of-page synchronization interface.

6. A device, as defined in claim 1, wherein the executable code is selected from a group that includes serial interfaces, parallel interfaces, serial peripheral interface (SPI), Synchronous Serial Interface (SSI), MicroWire, Inter Integrated Circuit (I2C), control area network (CAN), UART, IEEE1284, LCD interface, front panel interface, and MODEM.